

Serial No. 08/963,096
Group Art Unit: 1638

REMARKS/ARGUMENTS

Specification

2. *New Matter rejection. The Examiner states that, "The amendment to replace "PHP28" with "PHP38" appears to introduce new matter into the specification."*

The Applicant respectfully submits that the designation "PHP28" in the application was a typographical error. PHP28 is an incorrect designation. PHP38 was the inbred used in the experiments. Given these facts the Applicants respectfully request that the Examiner reconsider.

Claim Rejections – 35 USC § 112

3. *The Examiner rejects claims 90 and 91 under 35 U.S.C. 112, first paragraph, "because the specification, while being enabling for a transformed inbred maize plant PHJ90, PHN46, and PHP28(38) prepared by the disclosed PHI method, does not reasonably provide enablement for any and all inbred maize plants."*

The Examiner goes on to state that, "Applicant teaches only that the PHI protocol allowed transformation of inbred lines PHJ90, PHN46, and PHP28(38), which could not be transformed using the prior art method of Ishida. However, the source of these three lines is unclear, and the relationship of the three lines to each other, to A188, and to other inbred maize lines as broadly claimed is unclear. Hence, one of skill in the art cannot easily determine if the PHI protocol would be expected to be universally applicable to all maize lines, or is simply a preferable protocol for the three disclosed lines."

Applicants traverse. In the specification, page 25, it states, "The present invention also provides an improved method for the transformation of a variety of inbred lines other than A188, and importantly including maize lines across a wide range of genetic diversity. Three different elite inbred lines were tested, belonging

Serial No. 08/963,096
Group Art Unit: 1638

to three different heterotic groups and therefore representing a broad range of genetic diversity (emphasis added)." The inbred lines used are known to the public. Inbred lines PHJ90, PHN46, and PHP38 have been patented and an ATCC deposit for each line has been made. PHJ90 is described in patent 5,245,125 and the ATCC deposit number for the line is 75426. PHN46 is described in U.S. Patent 5,567,861 and the ATCC deposit number for the line is 91733. PHP38 is described in U.S. Patent 5,708,189 and the ATCC deposit number for the line is 75612.

The USPTO addressed the "representative number" requirement in the Written Description Guidelines.

A representative number of species means that the species which are adequately described are representative of the entire genus. Thus, when there is substantial variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus. On the other hand, there may be situations where one species adequately supports a genus. What constitutes a "representative number" is an inverse function of the skill and knowledge in the art. Satisfactory disclosure of a "representative number" depends on whether one of skill in the art would recognize that the applicant was in possession of the necessary common attributes or features of the elements possessed by the members of the genus in view of the species disclosed. For inventions in an unpredictable art, adequate written description of a genus which embraces widely variant species cannot be achieved by disclosing only one species within the genus. **Description of a representative number of species does not require the description to be of such specificity that it would provide individual support for each species that the genus embraces.**

Applicants maintain that the claims are enabled and applicants have met the representational number requirement. Steps to the transformation process are detailed in the specification so that undue experimentation is not required by one of ordinary skill in the art.

5. The Examiner rejects claim 91 under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The Examiner suggests that the claim should recite "transgenic".

Serial No. 08/963,096
Group Art Unit: 1638

Applicants have amended the claim as suggested by the Examiner therefore obviating the rejection.

7. *The Examiner rejects claims 90 and 91 under 35 U.S.C. 102(b) as being anticipated by Goldman et al. (U.S. Patent 5,177,010).*

Applicants have amended the claims therefore obviating the rejection. Goldman teaches plants that have been transformed using seedlings. The claims now specify contacting the Agrobacterium with an immature embryo and the transformed plants produced from such method.

8. *The Examiner rejects claims 90 and 91 under 35 U.S.C. 102(e) as being anticipated by Goldman et al. (U.S. Patent 6,020,539).*

Applicants have amended the claims therefore obviating the rejection. Goldman teaches plants that have been transformed using seedlings. The claims now specify contacting the Agrobacterium with an immature embryo and the transformed plants produced from such method.

10. *The Examiner rejects claims 90 and 91 under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (Nature Biotech. 14:745-750, 1996).*

Applicants traverse the rejection. Applicants submit that the only inbred transformed using Agrobacterium and immature embryos at the time the invention was made was A188. Applicants successfully transformed three different inbred lines from three different heterotic groups. Therefore, the art teaches away from Applicants claims and thus makes the Applicants claims non-obviousness.

11. *The Examiner rejects claims 90 and 91 under 35 U.S.C. 103(a) as being unpatentable over Hiei et al. (U.S. Patent filed 7/6/93).*

Applicants traverse the rejection. Applicants submit that because the art at the time of the invention shows that using Agrobacterium to transform inbred lines,

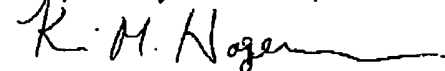
Serial No. 08/963,096
Group Art Unit: 1638

other than A188, was not possible, these unexpected results overcome the obviousness rejection.

CONCLUSION

Applicants have amended claims 90 and 91. Applicants have added new claims 92-97. In light of the foregoing remarks, withdrawal of the outstanding rejections and allowance of all of claims 90-97 is respectfully requested.

Respectfully submitted,



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